WHAT IS CLAIMED IS:

1. A method for the micropropagation in tissue culture of plantlets of *Arundo donax*, comprising:

a) obtaining explant material from meristematic tissue, juvenile or immature *Arundo donax* plant structures;

b) cleaning said explant material to obtain aseptic explant material;

c) introducing said aseptic explant material into a semi-solid or solid embryo induction medium, allowing for the production of mature embryos; and

d) culturing the mature embryos on semi-solid or solid germination medium to thereby generate said plantlets.

2. The method of claim 1, further comprising transferring the mature embryos from step (c) to a liquid suspension culture medium to thereby induce the production of more embryos prior to step (d).

3. The method of claim 1, further comprising transferring the mature embryos from step (c) to a liquid suspension culture medium to thereby induce the production of more embryos, followed by splitting and subculturing in fresh liquid suspension medium to induce further embryo multiplication, prior to step (d).

4. The method of claim 1, further comprising transferring the plantlets or nodal segments thereof to a solid or semi-solid shoot multiplication medium to thereby obtain multiple shoots from the plantlets.

5. The method of claim 1, further comprising transferring the plantlets to a rooting medium that will induce the growth of roots on the plantlets.

6. The method of claim 1, wherein the embryo induction medium comprises a basal plant medium supplemented with sucrose, a gelling agent, and one or more of 2,4-dichlorophenoxyacetic acid (2,4-D), 6-benzyladenine (BA), indoleacetic acid (IAA), kinetin (K), and thidiazuron (TDZ).

7. The method of claim 6, wherein the basal plant medium is LS or MS medium.

8. The method of claim 7, wherein the embryo induction medium comprises LS medium supplemented with IAA, 2,4-D and sucrose.

9. The method of claim 8, which contains 1.0 mg/L IAA, 2 mg/L 2,4-D and 20 g/L sucrose.

10. The method of claim 1, wherein the germination medium comprises a basal plant medium supplemented with sucrose and a gelling agent.

11. The method of claim 10, wherein the basal plant medium is LS or MS medium.

12. The method of claim 2, wherein the liquid suspension culture medium comprises a basal plant medium supplemented with sucrose, and one or more of 2,4-dichlorophenoxyacetic acid (2,4-D), 6-benzyladenine (BA), indoleacetic acid (IAA), kinetin (K), and thidiazuron (TDZ).

13. The method of claim 12, which comprises one or more of 1 – 6 mg/L 2,4-D, 0.5 – 2 mg/L BA, 1 - 3 mg/L BA, 1 – 3 mg/L K, and 0.05 – 1.0 mg/L TDZ.

14. The method of claim 12, wherein the liquid suspension culture medium further comprises asparagine.

15. The method of claim 4, wherein the shoot multiplication medium comprises a basal plant medium supplemented with sucrose, a gelling agent, and one or more of 2,4-dichlorophenoxyacetic acid (2,4-D), 6-benzyladenine (BA), indoleacetic acid (IAA), kinetin (K), and thidiazuron (TDZ).

16. The method of claim 15, wherein the shoot multiplication medium comprises MS medium supplemented with Gamborg's vitamins, BA, TDZ and sucrose.

17. The method of claim 16, which contains 1.0 mg/L BA, 0.05 mg/L TDZ and 30 g/L sucrose.

18. A plantlet of *Arundo donax*, which is obtained by the method of claim 1.

19. A method for the macropropagation of *Arundo donax* or Bamboo to obtain plants thereof, comprising:

a) obtaining plantlets of the *Arundo donax* or Bamboo;

b) transferring said plantlets to trays containing a high-porosity, soil-less potting mixture and which will float on a liquid medium in a float bed nursery apparatus that provides for conditions conducive to growth of the plantlets and placing said trays on one end of said apparatus;

c) moving the trays of plantlets along the float bed apparatus, such that when the trays reach the opposite end of the apparatus the plantlets have reached the maturity of a plant that is ready for planting in the field.

20. The method of claim 19, wherein plantlets of *Arundo donax* are obtained by a method of micropropagation, comprising:

a) obtaining explant material from meristematic tissue, juvenile or immature *Arundo donax* plant structures;

b) cleaning said explant material to obtain aseptic explant material;

c) introducing said aseptic explant material into a semi-solid or solid embryo induction medium, allowing for the production of mature embryos; and

d) culturing the mature embryos on semi-solid or solid germination medium to thereby generate said plantlets.

21. The method of claim 19, wherein new trays of plantlets are added to the float bed apparatus when trays with mature plants are removed at the opposite end, thereby operating in a continuous, conveyor belt fashion.

22. An *Arundo donax* or bamboo plant obtained by the method of claim 19.

23. An *Arundo donax* or bamboo plant obtained by the method of claim 20.

24. A float bed apparatus for the propagation of plants, comprising a bottom frame structure of about six inches high, which is constructed on a level smooth base to form a device to hold a liquid medium at a depth of about four to six inches, onto which a canopy framework of a sufficient height to accommodate the plants is attached to the bottom frame.

25. The apparatus of claim 24, wherein the bottom frame structure is lined with a plastic film of about 6 mils thickness to thereby hold the water.

26. The apparatus of claim 24, wherein the canopy framework is constructed of plastic pipe.

27. The apparatus of claim 24, wherein at least a portion of one end of the canopy framework under which plantlets are transferred to the float bed apparatus is covered with a material of sufficient light reduction characteristics to allow growth but protect plantlets from wilting and to acclimatize newly transplanted plantlets.

28. The apparatus of claim 24, which further comprises an overhead misting apparatus with emitters spaced along the linear dimension of the canopy framework to attain desired humidity.

29. The apparatus of claim 24, wherein the bottom frame structure contains water that is supplemented with nutrients and plant growth hormones conducive to plant growth.

30. The apparatus of claim 24, which further comprises plants within the bottom frame structure.

31. The apparatus of claim 30, wherein said plants are *Arundo donax* or bamboo.

32. A method for the macropropagation of *Arundo donax* or Bamboo to obtain plants thereof, comprising:

a) obtaining plantlets of the *Arundo donax* or Bamboo;

b) transferring said plantlets to a tray containing a high-porosity, soil-less potting mixture an which will float on a liquid medium in a N^{th} float bed module that provides conditions conducive for growth of the plantlets;

c) placing the N^{th} float bed module at the end of a pathway containing N -1 float bed modules, said pathway permitting movement of the N^{th} float bed from a first position to a second position; and

d) permitting the N^{th} float bed module to move along the pathway so as to permit the N^{th} float bed module to arrive at the second position when the plantlets are sufficiently mature for planting proximate to the second position.

33. The method of claim 32, wherein plantlets of *Arundo donax* are obtained by a method of micropropagation, comprising:

e) obtaining explant material from meristematic tissue, or juvenile or immature *Arundo donax* plant structures;

f) cleaning said explant material to obtain aseptic explant material;

g) introducing said aseptic explant material into a semi-solid or solid embryo induction medium, allowing for the production of mature embryos; and

h) culturing the mature embryos on semi-solid or solid germination medium to thereby generate said plantlets.

34. The method of claim 32, wherein the N^{th} float bed is transported from the second position to the first position for introduction of a new tray of plantlets when the tray with mature plants is removed at the second position, thereby permitting the method to operate in a continuous, conveyor belt fashion.

35. A plant culture medium, comprising LS medium supplemented with 1.0 mg/L IAA, 2 mg/L 2,4-D and 20 g/L sucrose.

36. A liquid suspension plant culture medium, which comprises sucrose, and one or more of 1 – 6 mg/L 2,4-D, 0.5 – 2 mg/L BA, 1 - 3 mg/L BA, 1 – 3 mg/L K, and 0.05 – 1.0 mg/L TDZ.

37. The liquid suspension plant culture medium of claim 36, which further comprises asparagine.

38. A plant shoot multiplication medium, comprising a basal plant medium supplemented with sucrose, a gelling agent, and one or more of 2,4-dichlorophenoxyacetic acid (2,4-D), 6-benzyladenine (BA), indoleacetic acid (IAA), kinetin (K), and thidiazuron (TDZ).

39. The medium of claim 38, which comprises MS medium supplemented with Gamborg's vitamins, BA, T DZ and sucrose.

40. The medium claim 39, which contains 1.0 mg/L BA, 0.05 mg/L TDZ and 30 g/L sucrose.